

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. – 11. (Cancelled)

12. (Currently Amended) An injector for injecting a fuel into a gas powered turbine, comprising:

a combustion chamber in which a volume of the fuel is combusted;

an oxidizer supply to supply a selected oxidizer to said combustion chamber;

a preheat section to heat the oxidizer to a first temperature;

~~an~~ a plurality of oxidizer pathway pathways to provide the oxidizer at the first temperature to said combustion chamber;

~~an~~ a plurality of injector slot slots near said plurality of oxidizer pathway pathways; and

a splash surface associated with each injector slot to spread the volume of the fuel ~~in said injector slot~~;

wherein the volume of the fuel substantially mixes with the oxidizer from said ~~oxidizer pathway~~ plurality of oxidizer pathways prior to combusting;

wherein said plurality of oxidizer pathways and said plurality of injector slots are positioned in a row.

13. (Previously Presented) The injector of claim 12, further comprising:
an aperture through which the volume of the fuel is transferred from the
fuel supply to the splash surface.

14. (Currently Amended) ~~The injector of claim 13,~~ An injector, comprising:

a combustion chamber in which a volume of the fuel is combusted;
an oxidizer supply to supply a selected oxidizer to said combustion
chamber;

a preheat section to heat the oxidizer to a first temperature;
an oxidizer pathway to provide the oxidizer at the first temperature to said
combustion chamber;

an injector slot near said oxidizer pathway;
a splash surface to spread the volume of the fuel in said injector slot; and
an aperture through which the volume of the fuel is transferred from the
fuel supply to the splash surface;

wherein the volume of the fuel substantially mixes with the oxidizer from
said oxidizer pathway prior to combusting;

wherein said injector slot has a slot width;

wherein said aperture provides a hydraulic diameter of the selected fuel
less than about 80% of said slot width.

15. (Currently Amended) The injector of claim 13, further comprising:
an injector element defining at least each of said injector slot, said splash surface, and said aperture;

wherein said aperture is provided in a portion of said injector element to provide a fuel to the injector slot and said splash surface.

16. (Currently Amended) The injector of Claim 15, wherein each of said injector slot slots defines at least a portion of said splash surface;

wherein said aperture supplies fuel to ~~said injector slot~~ each of said injector slots and at least a portion of said fuel engages said splash surface.

17. (Currently Amended) The injector of Claim 12, wherein said splash surface is operable to develop a sheet flow of fuel;

wherein ~~injector slot~~ each of said injector slots provides the sheet flow of fuel into a stream of the oxidizer from each of said oxidizer ~~pathway~~ pathways.

18. (Previously Presented) An injector for injecting a fuel into a gas powered turbine, comprising:

- a combustion chamber in which a volume of the fuel is combusted;
- an oxidizer supply to supply a selected oxidizer to said combustion chamber;
- a preheat section to heat the oxidizer to a first temperature;
- an oxidizer pathway to provide the oxidizer at the first temperature to said combustion chamber;
- an injector slot near said oxidizer pathway; and
- a splash surface to spread the volume of the fuel in said injector slot;
- wherein the volume of the fuel substantially mixes with the oxidizer from said oxidizer pathway prior to combusting; and
- an injector plate defining at least a portion of said oxidizer pathway.

19. (Original) The injector of Claim 18, further comprising:

- an injector face defined by said injector plate;
- an injector nose extending downstream of said injector face, such that the oxidizer flows past said injector nose.

20. (Currently Amended) The injector of Claim 19, wherein said injector nose includes an internal angle of about 4° to about ~~20~~ 40°.

21. (Original) The injector of Claim 19, wherein said injector nose defines a plane that allows a flow of the oxidizer past said injector nose substantially turbulence free.

22. (Previously Presented) The injector of Claim 12, wherein said splash surface produces a sheet flow of the fuel and ~~said injector slot~~ each of said injection slots directs said sheet flow of fuel into a stream of oxidizer emanating from ~~said oxidizer pathway~~ each of said oxidizer pathways;

wherein said sheet of fuel substantially mixes with said stream of oxidizer before any portion of the fuel combusts.

23. (Original) The injector of Claim 12, wherein the fuel includes at least a first fuel and a second fuel, wherein said first fuel and said second fuel are different.

24. (Original) The injector of Claim 22, wherein the fuel includes a first fuel and a second fuel, wherein said second fuel is different from said fuel.

25. (Original) The injector of Claim 24, wherein said first fuel is at least one of hydrogen, methane, natural gas, Synthesis gas, and combinations thereof; and

said second fuel is at least one of a hydrogen, a methane, a Synthesis gas, a natural gas, in combinations thereof.

26. – 34. (Cancelled)

35. (Previously Presented) An injector for injecting a selected fuel into a fluid stream, comprising:

- a fuel supply to supply the selected fuel;
- a splash surface to spread a selected volume of the selected fuel;
- an injector slot, having a slot width;
- an aperture to allow the volume of the selected fuel from the fuel supply to leave said injector slot;
- a combustion chamber in which fuel from the fuel supply is operable to be combusted;
- wherein said aperture provides a hydraulic diameter of the selected fuel in said injector slot less than about 80% of said slot width.

36. (Previously Presented) The injector of Claim 35, wherein said slot width is greater than about 0.02 inches.

37. (Previously Presented) The injector of Claim 35, further comprising an injector element defining a void to which the selected volume of the selected fuel is provided before being spread on said splash surface.

38. (Previously Presented) The injector of Claim 37, wherein said injector element further defines said aperture near said injector slot;

- wherein said fuel is supplied from said void through said aperture to said injector slot in a substantially unitary structure.

39. (Previously Presented) The injector of Claim 37, further comprising:
a removable member operably sealing said void in a first selected position
and removable to unseal said void;
wherein said plug may be removed to obtain access to at least said
aperture.

40. (Previously Presented) The injector of Claim 35, further comprising:
a nose portion extending downstream of said injector slot;
wherein said nose portion of system directs a flow of a fluid.

41. (Currently Amended) The injector of Claim 40, wherein said nose portion
includes an internal half-angle of about 2° to about ~~20~~ 40°.

42. (Previously Presented) The injector of Claim 40, wherein said nose
includes a planar portion defining a plane substantially perpendicular to a flow of a fluid
past said nose;
wherein said planar portion is operable to achieve a selected holding
flame.

43. (Previously Presented) The injector of Claim 35, further comprising:
a coolant pathway;
wherein said coolant pathway is operable to maintain a temperature of the injector during use.

44. (Previously Presented) The injector of Claim 35, further comprising:
an elongated member defining a plurality of said splash plates, a plurality of said injector slots, and a plurality of said apertures;
wherein at least one of said plurality of said splash plates, said apertures, and said injectors define a single injector portion for injecting the fuel into a selected area.

45. (Previously Presented) The injector of Claim 35, wherein said fuel supply is operable to supply at least one of hydrogen, methane, natural gas, Synthesis gas, and combinations thereof.

46. (Cancelled)

47. (Currently Amended) The injector of Claim 12, further comprising an injector nose extending near said splash surface; wherein an internal angle of the injector nose is about 4° to about ~~20~~ 40°.